Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection
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August 14, 2014

Michael Toomey
Boston Environmental Corporation
338 Howard Street
Brockton, MA 02302

RE: FINAL APPROVAL WITH CONDITIONS
Application for: BWP SW12 Initial Site Assessment/
Comprehensive Site Assessment Scope of Work

AT: Old Fall River Road Landfill
452 Old Fall River Road
Dartmouth, Massachusetts
Facility # 39200 FMF number

Transmittal Number: X260505

Dear Mr. Toomey:

The Massachusetts Department of Environmental Protection, Solid Waste Management Section (the "MassDEP" or "Department"), has completed its review of the proposed Initial Site Assessment/Comprehensive Site Assessment Scope of Work - BWP SW-12; Transmittal Number: X260505 (the "Application") for the Old Fall River Road Landfill ("Cecil Smith Landfill") Dartmouth, Massachusetts (the "Landfill"). The Application was submitted on behalf of the Boston Environmental Corporation ("BEC") (the "Operator") by SITEC of Marshfield, Massachusetts (the "Consultant"). On July 21, 2014 MassDEP determined the Application was administratively complete. The MassDEP has determined that the Application is technically complete, and hereby conditionally **Approves** the Initial Site Assessment/Comprehensive Site Assessment Scope of Work (the "ISA/CSA SOW").

I) SUBMITTALS:

The following documents were submitted on behalf of the BEC and represent the complete Application reviewed by MassDEP under 310 CMR 19.000 *Solid Waste Management Facility Regulations* and MassDEP*'s Landfill Technical Guidance Manual, May 1997* (the "Manual"):

A. An Original application package received by MassDEP on May 22, 2014, comprised of the following documents:

   i. A Permit transmittal Form assigned Transmittal Number X260505;
   ii. A BWP SW 12 application form for an Initial Site Assessment/Comprehensive Site Assessment Scope of Work; and
   iii. A bound report entitled:

"BWP SW 12-Initial Site Assessment/
Comprehensive Site Assessment-Scopeof Work
Transmittal X260505
Old Fall River Road Landfill
452 Old Fall River Road, Dartmouth"

B. A Supplemental Transmittal Form X260505 and a letter report prepared by SITEC in response to letters from the Dartmouth Select Board (June 13, 2014) and Dartmouth Board of Health (June 20, 2014), as well as discussions with MassDEP on July 14, 2014.

II) PROJECT BACKGROUND

The Old Fall River Road landfill is an inactive, unlined, uncapped landfill (the "Landfill") located at 452 Old Fall River Road in North Dartmouth, Massachusetts, and owned by Mary Robinson ("Owner"). The Landfill is approximately 25-acres in size and is situated on a 60-acre parcel of site-assigned land (the "Site"). MassDEP records indicate that construction and demolition ("C&D") waste was disposed of in the Landfill from approximately 1954 until 1974.

In July 2012, MassDEP met with the Applicant, who proposed utilization of MassDEP's "Revised Guidelines for Determining Closure Activities at Inactive Unlined Landfill Sites" (the Guidelines") to close and cap the Landfill through the use of approved grading/shaping materials pursuant to MassDEP Policy #COMM-97-001, and processed construction and demolition materials, in order to accrue sufficient funds to pay for the closure/capping of the Landfill, as well as to fund the Landfill's post-closure monitoring and maintenance during the post-closure period of thirty (30) years.

On or about December 17, 2012, BEC submitted a conceptual landfill closure proposal (the "Conceptual Closure Proposal") from BEC pursuant to the MassDEP's "Inactive Landfill Closure Guidelines". As proposed, the existing footprint of the Landfill would be excavated/consolidated from 25 acres to a final size of 23-acres, and an estimated 1,100,000 cubic-yards of approved grading shaping materials (i.e. contaminated soils and construction and demolition debris fines) would be used to achieve final landfill closure grades/configuration.

On March 28, 2014, MassDEP executed Administrative Consent Order ACO-SE-14-4001 (the "ACO"). The ACO required that BEC's final/revised Conceptual Closure Proposal meet the requirements of the "Inactive Landfill Closure Guidelines". The revised conceptual closure proposal specified that the existing 25 acre footprint of the Landfill would be consolidated to a final size of approximately 23 acres, and an estimated 926,000 cubic yards.[3] of mildly contaminated soils and construction and demolition debris fines would be used as shaping and grading materials to close the Landfill.

The ACO required the submittal of a BWPSW12 – ISA/CSA-Scope of Work ("ISA/CSA-SOW") permit application to MassDEP **"within sixty (60) days of the Effective Date of this Consent Order",**." The purpose of an ISA/CSA SOW is to gather and evaluate all existing data relating to the Landfill site,

develop a conceptual model of the site, identify potential receptors surrounding the site and prepare a scope of work for the Comprehensive Site Assessment.

III) INITIAL SITE ASSESSMENT REPORT SUMMARY:

The inactive, unlined and uncapped Old Fall River Road Landfill is located at 452 Old Fall River Road, Dartmouth, Massachusetts on a 94 acre parcel of land (the "Site") currently owned by Mary Robinson. The Dartmouth Board of Health "site assigned" 60 acres of the Site in 1975 for landfill operations. Approximately, 25 acres of the 94 acre parcel have been used to dispose primarily construction and demolition debris.

The Site began as a sand and gravel operation in 1954. From the 1960's through 1975, the Site was used as a disposal location for construction and demolition debris. The actual volume and source of the material disposed at the Site is unknown. In the early mid 1970s, MassDEP initiated enforcement against the previous owner, Cecil Smith, and ordered the owner to cease and desist all solid waste activities until such time that a solid waste site assignment and all necessary permits were secured. After receiving site assignment, the previous owner pursued permits to construct and operate a municipal solid waste sanitary landfill at the site from MassDEP. MassDEP approved landfill construction plans in 1980s. Although the Landfill was granted site assignment in 1975, and MassDEP approved plans to cap the existing Landfill and construct and operate a lined solid waste sanitary landfill. The lined Landfill never went into operation. Sometime in the 1980s, the Landfill was capped/closed according to plans approved by MassDEP.

Between 2000 and 2007 MassDEP resumed negotiations with the new and current owner, Mary Robinson, in efforts to negotiate a settlement and establish an administrative consent order to bring the site back into compliance. The owner and various proponents put forth several proposals to bring the site back into compliance, including one similar to the current proposal by BEC to utilize MassDEP's "Revised Guidelines for Determining Closure Activities at Inactive Unlined Landfill Sites". These negotiation efforts proved to be unsuccessful.

On July 17, 2009 in response to a complaint alleging that there was unpermitted landfill disruption activity occurring at the Landfill, MassDEP conducted an inspection and observed that the Landfill had been disrupted as it displayed signs of excavation and presence of exposed solid waste. In some areas of the Landfill there were accumulations of recyclable metal that appeared to have been excavated from the Landfill and that the residual materials had been placed back into the excavation area. MassDEP also observed evidence of ash and partially burned solid waste materials that had been excavated from the Landfill.

On August 7, 2009, MassDEP issued a Unilateral Administrative Order ("#UAO-SE-09-4001") to the owner requiring: they cease all unapproved post closure use activities; implement a health and safety plan to prevent exposure to chemical and physical dangers at the Landfill; and within thirty (30) days submit a Remedial Action plan to conduct an assessment and remediate the Landfill.

MassDEP records indicate that the owner did not appeal the UAO. On August 28, 2009, MassDEP granted the owner a thirty (30) day extension to comply with the UAO. MassDEP records indicates that the owner failed to comply with all of the requirements of the UAO. On March 20, 2011, MassDEP notified the owner of their failure to comply with the UAO. On June 22, 2011, MassDEP conducted an Enforcement Conference with the owner regarding the failed compliance with the UAO. On August 23, 2011, MassDEP issued to the owner, for their signature, an Administrative Consent Order with Penalty regarding the past issues of noncompliance and the establishment of a compliance plan and schedule.

MassDEP records indicate that the owner failed to sign the Administrative Consent Order with Penalty. Therefore, the ACOP never became effective.

Assessment History: There have been at least 10 environmental investigations associated with the Landfill beginning in the 1970s through 2013. MassDEP has listed those investigations for which it has records and briefly summarized the scope of the investigations:

1. **GHR 1977**
   - Installed 5 monitoring wells
   - Groundwater samples from 5 monitoring wells
   - 34 test pits
2. **GHR Jan. 1982**
   - 5 Groundwater samples from 5 monitoring wells
3. **GHR Feb. 1982**
   - 2 Groundwater samples from 2 monitoring wells
4. **Town of Dartmouth Feb. 1982**
   - 1 Sediment
   - 1 Leachate sample
5. **EPA 1990**
   - 5 Surficial Soil Samples
6. **EPA 2000**
   - 7 Sediment samples from (5) Cole Brook and (2) unnamed stream north and upstream of Landfill
7. **Casella Waste 2002**
   - Installed 9 monitoring wells
   - 10 Groundwater samples from 9 monitoring wells and 1 private well
   - 5 Sediment samples
   - 42 test pits (screened for VOCs and TPH) and 4 test pits samples analyzed by lab
8. **EPA 2004**
   - 7 Groundwater monitoring wells installed (MW-01 through MW-07);
   - 9 Surficial-soil samples (12-24 inches)
   - 15 Groundwater samples from 14 monitoring wells
   - 2 Drinking water supply well samples (DW-01 and DW-02) from the on-site drinking water supply
   - 17 Sediment samples from an unnamed tributary, Cole Brook, Shingle Island River, and the on-site wetlands.
9. **BEC 2012**
   - 63 Test Pits
10. **Haley & Aldrich 2013**
    - Installed 6 monitoring wells and collected 13 groundwater samples in June 2013.

Assessment Results: The results of previous assessments presented in this permit decision are limited to the previous environmental investigations conducted by the United States Environmental Protection Agency ("EPA") and recent investigations conducted by Boston Environmental Corporation's consultant, Haley and Aldrich. MassDEP focuses on these assessments because there are complete reports for these investigations and sampling locations, methodologies, and laboratory testing protocols are well documented

The EPA and or its contractors collected samples from the Site in 1990, 2000 and 2004. Additionally, EPA installed 7 groundwater monitoring wells in 2004. In total EPA has collected:

- 14 soil samples
- 24 sediment samples
- 15 groundwater samples
- 1 groundwater sample from the on-site private well.

EPA Soil Sampling: In 1990 and 2004, the soil samples were analyzed for volatile organic compounds, semi-volatile organic compounds, pesticides, polychlorinated biphenyls (PCBs), metals & cyanide. In 1990 seven compounds were detected with concentrations in soil samples exceeding MassDEP's MCP Method 1 S-1/GW-1 cleanup standards. Five of the compounds were semi-volatiles (2 methyl naphthalene, benzo(a)anthracene, benzo(b)flouranthene, benzo(a)pyrene and dibenzo(a,h)anthracene), 1 pesticide (dieldrin) and 1 metal (total chromium).

In 2004, 10 semi volatiles and 6 inorganic parameters, including lead, mercury, zinc and cyanide, were detected in the soils samples. However, no compounds were detected in the surficial soils at concentration exceeding MassDEP Method 1 S-1/GW-1 cleanup standard during the 2004 sampling round.

Sediment Samples: In 2000, EPA collected 5 sediment samples from Cole Brook and 2 samples from an unnamed stream north of Old Fall River Road as upstream background samples. All samples were collected from off the site due to difficulties in obtaining access to the property.

No pesticides, PCBs or cyanide were detected in the sediment samples collected in 2000. Several volatile organic and semi-volatiles compounds were detected but they were also detected in the upstream or background sediment samples. EPA concluded that stormwater runoff from Old Fall River Road or a location upstream could be the source of the contaminants.

In a sediment sample collected downstream of the Landfill, cadmium was detected at a concentration of 0.12 ppm which is less than the MassDEP's Threshold Effects Concentrations (TECs) sediment screening criteria of 5 ppm.

In 2004 EPA collected 17 sediment samples from locations along an unnamed tributary (between Old Fall River Road and the Landfill), Cole Brook and Shingle Island River and wetlands on site. Nine sediment samples were collected adjacent to or near the Landfill and 8 were identified as background samples. In a sample downstream of the Landfill a pesticide was detected at a concentration exceeding Massachusetts sediment screening criteria value. EPA concluded the concentration to be “not be attributable to the Cole Brook property”. This pesticide was historically widely used for mosquito control in the past.

Iron and manganese were detected in 2 sediment samples located adjacent to the Landfill at concentrations greater than those in the background sediment samples. The concentrations of iron and manganese could be naturally occurring in the two sediment samples, but elevated iron and manganese in sediments can often be associated with unlined Landfills. The elevated iron and manganese can be symptomatic of leachate impacted groundwater discharge into a surface water body or wetlands.

EPA Groundwater Monitoring: In 2004 EPA installed seven shallow groundwater monitoring wells. One monitoring well (MW-4) was installed within the waste limits of the 23 acre Landfill.

EPA collected 15 groundwater samples, from 14 monitoring wells. All groundwater samples were analyzed for volatile organic compounds, semi volatile organic compounds, PCBs, pesticides, total metals and cyanide. Groundwater sample from monitoring well SGA-02 was analyzed for total and dissolved metals. The concentration of constituents detected in groundwater samples collected from the monitoring wells have been compared to the MCP method 1 GW-1 standards. No pesticides or PCBs were detected in the groundwater samples. One volatile organic compound 1,1,1 trichloroethane was detected in a groundwater sample collected from monitoring well SGA-05D located in close proximity to the Landfill at a concentration of 33 ppb which is less than the MCP Method 1 GW-1 of 200 ppb.

Total Cyanide was detected in two groundwater samples collected from two monitoring wells located in close proximity to the 23 acre Landfill at concentrations of 189 and 56 ppb which are less than the drinking water standard of 200 ppb. Total cyanide was detected in two samples at concentrations greater than the MCP Method 1 GW-3 value of 30 ppb. Groundwater samples collected by Haley and Aldrich in 2013 were analyzed for total and physiological available cyanide (PAC) concentrations and did not contain cyanide above the method reporting limit of 5 ppb.

Beryllium and lead were detected at concentrations exceeding MCP method 1 standards. All metal exceedances were detected in a single monitoring well except lead, which was detected in two monitoring wells (MW-04 and SGA-02). EPA collected 2 samples from monitoring well SGA-02 for metals analysis: a filtered sample and an unfiltered sample. The concentration of lead in the unfiltered analysis exceeded the Massachusetts drinking water standard, while the filtered sample did not exceed the Massachusetts drinking water standard. MassDEP has concluded the results of the total metals from unfiltered samples could be the result of metals attached to suspended particles and not representative of the concentration of the two metals which a resident would be exposed to from drinking water from a private well.

Iron and manganese were detected in groundwater samples exceeding Massachusetts Secondary Maximum Contaminant Levels which are issued by the US EPA as representing levels of chemicals above which aesthetic properties of the water like taste, odor and color can be affected. The elevated iron and manganese are often indicative of leachate impacted groundwater.

In addition to the groundwater monitoring samples, EPA collected two samples from the on-site potable well. The groundwater sample collected from the residential drinking water supply wells was analyzed for volatile organic compounds, semi volatile organic compounds pesticides, PCBs, total metals and total cyanide. No semi volatiles, pesticides or PCBs were detected in the samples from on-site potable well.

Haley and Aldrich Groundwater Sampling: Haley & Aldrich installed 6 monitoring wells and collected 13 groundwater samples in June 2013. The Haley and Aldrich June 2013 report identified groundwater impacts typically associated with an unlined and uncapped Landfill. Evidence of leachate impacts on groundwater are typified by elevated concentrations of alkalinity, total dissolved solids and specific conductance especially in monitoring wells HA-1 and HA-2, located along the western perimeter of the Landfill, and to a lesser extent in monitoring wells, HA-3 located immediately south of the Landfill, and HA-5, located immediately east of the Landfill. Groundwater samples collected from both wells contain elevated alkalinity levels and the groundwater sample collected from HA-5 contained concentrations of toluene at 4 ppb and 2-butanone at 7 ppb. The concentrations of both of these volatile compounds are less than MCP Method 1 standards of 1000 and 4000 ppb, respectively.

Five semi-volatile and volatile compounds were detected in groundwater samples collected from on-site monitoring wells below applicable MCP Method 1 standards.

Current Potential Human and Environmental Sensitive Receptors: The Landfill is abutted by one commercial property and residential homes to the north; to the south by residential properties and

undeveloped land to the south; to the west by residential properties, wetlands and woodlands and Cole Brook Swamp; and to the east by undeveloped property. The Site is bordered by Old Fall River Road to the north and Hixville Road located further to the south. The Site is bisected by an active Algonquin Gas transmission line and a New England Electric electrical transmission line.

A single family home with a private water supply well and septic system is located in the center of the landfill area. The home is scheduled to be relocated to an area off of the Landfill and the well and septic system will be abandoned in accordance with Massachusetts regulations as part of the landfill closure activities.

Additional Potential Human & Environmental Sensitive Receptors: Within a one mile radius of the Landfill, there are approximately 278 private wells**.** The nearest private well is located on the property. The nearest off-site private well is located on the adjacent property owned by Gosselin & Sons Landscape Materials.

MassDEP categorizes groundwater into three categories which are defined as GW-1, GW-2 and GW-3. These groundwater categories were established to identify groundwater associated with three distinct types of exposures. The first category, GW-1 addresses the potential for groundwater to be used for drinking water. Groundwater that is classified as GW-1 is considered to be either a current or potential (future) source of drinking water.

The Landfill is located in a "Current Drinking Water Source Area" due to the proximity of private wells within 500 feet of the Landfill. The Landfill is located within 500 feet of three private water supplies. Therefore, the Massachusetts Contingency Plan (MCP) GW-1 category applies to the Site for being located within a Current Drinking Water Source Area.

The Landfill is not located within the following areas: the Zone II of a public water supply; the Interim Wellhead Protection Area for a public water supply; or the "Zone A" of a "Class A" surface water body used as a public water supply which are all considered Current Drinking Water Source Areas.

The Landfill is also located within a "Potential Drinking Water Source Area" for the following reasons:

1. There is no public water supply distribution pipeline in the immediate vicinity and down gradient of the Landfill.
2. The western portion of the Landfill is located within an area designated by the town of Dartmouth for the protection of groundwater.
3. The western portion of the Landfill is located in a medium yield potentially productive aquifer.

Therefore, the MCP GW-1 category applies to the Site for being located within a Potential Drinking Water Source Area.

Category GW-2 groundwater is considered to be a potential source of vapors of oil and/or hazardous material to indoor air. Groundwater is defined to be in the category GW-2 if it is located within 30 feet of an existing or planned building or structure that is or will be occupied, and the average annual depth to groundwater in that area is 15 feet or less. The average depth to groundwater ranges from 5 feet to 15 feet at the Site. The MCP GW-2 category applies to the site due to the presence of the on-site house.

The third category, GW-3, addresses the potential for groundwater to be a source of surface water contamination. All groundwater is assumed to eventually discharge to surface water and thus all groundwater in Massachusetts is by definition, GW-3.

The applicable Massachusetts Contingency Plan (the "MCP") groundwater categories at the Site are GW-1, GW-2, and GW-3.

The Landfill is listed by the Natural Heritage & Endangered Species Program (NHESP) as **Estimated Habitat of Rare Wildlife**. The consultant included documentation from NHESP stating that due to the historic use of the Landfill, the proposed project did not constitute a "take" as proposed and it could proceed as conditioned by NHESP.

Located to the west and southwest of the Landfill is Colebrook Swamp. There is an unnamed stream that flows along the eastern side of The Landfill, to the northern side and then along the western side, where it continues approximately one quarter mile and then discharges into the Shingle River.

Geology and Hydrogeology: The site is underlain by glacial fluvial deposits. The depth to groundwater on the Site ranges from approximately 5 to 15 feet below the ground surface. The groundwater flow direction in the overburden deposits, as depicted on Figure 3 of the Application, is to the west and will be refined as part of the CSA. The depth to bedrock will be refined as part of the CSA investigation.

CSA-SOW: The Comprehensive Site Assessment Scope of Work is to characterize and delineate the extent of any contamination, to evaluate all exposure pathways and to quantify the potential risk (if any) to human health, safety and the environment posed by the Landfill site. The Consultant has prepared a CSA-SOW which includes:

1. Installation of clusters of additional monitoring wells at four locations (one shallow, one deep, bedrock for each location). The Application includes a protocol for the installation of the additional monitoring wells at four locations (HA-1, HA-2,SGA-01S, and SGA-04). At a minimum, the scope of work includes the installation of deep overburden monitoring well and a bedrock monitoring well at the four locations. The number of deep overburden monitoring wells at each of the four locations shall follow the protocol referenced on page 18 of the Application. Any additional monitoring wells that are installed shall be included in the CSA groundwater monitoring (refer to condition #3).
2. Install and sample landfill gas survey probes for the purpose of locating permanent soil-gas monitoring wells.
3. Survey of the monitoring wells and surface water sampling locations for horizontal location and elevation in order that groundwater and surface water elevations can be determined, and groundwater contour and flow direction maps can be developed for the three hydrologic units
4. Groundwater, surface water, private water supply well and sediment sampling and analysis.
5. Rising Head Slug Test to determine hydraulic conductivity of aquifer materials.
6. Interpretation of hydrogeologic and analytical data for incorporation into a report.

IV) MASSDEP COMMENTS FOR DEVELOPMENT OF CSA:

MassDEP provides the following comments regarding the preparation of the Comprehensive Site Assessment:

1) Interim ISA/CSA Report: In accordance with the ACO, following the first round of sampling at the Landfill, the Consultant shall submit an Interim ISA/CSA Report (the "Report") for review by MassDEP (refer to condition V) 9 of permit decision below).

2) Monitoring Well(s): MassDEP has reviewed the information on proposed and existing monitoring well locations and determined that they are suitable for the use as components of the groundwater

monitoring network. Groundwater sampling shall be done in accordance with condition V) 3) of permit decision below.

3) Surface Water Sampling: MassDEP has reviewed the locations for surface water monitoring as proposed by the Consultant and determined that they are suitable for evaluation of flow and hydraulic connection between groundwater and surface water. SW-1 is located in the southeast corner of the Landfill, adjacent to the gas pipeline easement, SW-2 is located in the north extent of the Landfill and SW-3 is southwest of the Landfill, adjacent to 24" culvert under the path. Sampling shall be done in accordance with condition V)5 of permit decision below.

4) Private Wells: As part of the first round of quarterly sampling round, the two private wells that are within 500 feet of the Landfill will be sampled and analyzed (refer to condition V) 3) . These wells are located at 460 Old Fall River Road and 1 Stonefield Lane. The Interim report shall discuss the sampling results and make recommendations for additional private well sampling as necessary.

5) Sediment Sampling: MassDEP has reviewed the locations for sediment sampling (adjacent to SW-1, SW-2, and SW-3) as proposed by the Consultant and determined that they are suitable. At a minimum, sediment samples should be analyzed for total metals (listed in 310 CMR 19.132), Polychlorinated biphenyls (PCBs), pesticides and semi-volatile organic compounds (SVOCs). (refer to condition V)6 of permit decision below)

6) Landfill Soil-Gas Monitoring**:** The Consultant will do a single event soil gas characterization within the footprint of the waste. Per the Landfill Manual "No landfill gas sampling is required in soils where exposed groundwater and/or wetlands (provided the wetlands and/or exposed groundwater is not perched) is located between the Landfill and off-site dwellings." The Consultant proposed temporary soil gas probes in the upland area to the south of the Landfill and the gas pipeline easement, since a perennial stream flows around three sides of the Landfill. Sampling shall be done in accordance with condition V)7 of permit decision below.

Note: Ensure that the soil-gas monitoring points are located outside the limits of waste or at the point of compliance and are screened through the unsaturated depth ("vadose zone") or extend to the depth of waste.

7) Mapping/Site Plan: The mapping/site plan work shall include a groundwater flow contour map for each quarterly round of sampling, which highlights (potential) seasonal changes in groundwater elevation and flow direction. Additionally, the CSA shall include a schematic showing any/all structures, subsurface utility lines and/or conduits. Updated map, shall include new private wells within one mile radius of the Landfill and remove the IWPA which has been abandon.

V) PERMIT DECISION:

As a result of its review, the MassDEP, acting under the authority of M.G.L. c.111, s. 150A and 310 CMR 19.000, hereby approves the Application for an ISA/CSA SOW for the Landfill subject to the following Conditions:

1) Regulatory Compliance: This Approval does not relieve the Owner/Operator, from the responsibility to comply with all applicable regulatory permitting requirements. The Owner/Operator shall fully comply with all applicable local, state and federal laws and regulations. Applicable federal regulations include but are not limited to, 29 CFR part 1910, OSHA standards governing employee health and safety in the workplace.

2) Permit Limitation: This Approval is limited to the Initial Site Assessment/Comprehensive Site Assessment Scope of Work for the Landfill. The Owner/Operator shall conduct environmental monitoring of the Landfill in accordance with MassDEP regulations, the "Manual", permits, and as modified through review of monitoring data. The MassDEP reserves the right to require additional assessment or action, as deemed necessary to protect and maintain an environment free from objectionable nuisance conditions, dangers or threats to public health or the environment.

3) Groundwater Monitoring Network and Private Well Sampling: Groundwater monitoring shall be performed quarterly for the CSA in accordance with the following plan:

   A. At a minimum, the following thirteen (13) groundwater monitoring locations (HA-1, proposed HA-1 bedrock, SGA-03, HA-2, proposed HA-2 bedrock, HA-3, HA-6, MW-5, SGA-01S, SGA-01D, proposed SGA-01 bedrock, SGA-04 and proposed SGA-04 bedrock) shall be sampled and analyzed quarterly for the parameters specified at *310 CMR 19.132 Environmental Monitoring Requirements* including "all the compounds included in EPA Method 8260 and methyl ethyl ketone, methyl isobutyl ketone, acetone and 1,4 dioxane". The first round of sampling will include testing for the following extended parameter: semi-volatile compounds (SVOCs). All analytical results shall be compared to the applicable MCP risk characterization Method 1 Groundwater Standards (GW-1, GW-2, GW-3).

   B. The following two (2) private wells (460 Old Fall River Road and 1 Stonefield Lane shall be sampled during the first round of the CSA. Private well samples shall be for the parameters specified at *310 CMR 19.132 Environmental Monitoring Requirements* including "all the compounds included in EPA Method 8260 and methyl ethyl ketone, methyl isobutyl ketone, acetone and 1,4 dioxane". The results shall be compared to GW-1 groundwater standards.

   C. The Owner/Operator or operator shall ensure that the practical quantitation limits (or laboratory reporting limits) meet or are below the applicable MCP Method 1 GW-1, GW-2 and GW-3 standards.

4) Reporting Groundwater Exceedance: Exceedance of GW-1, GW-2, and GW-3 standards must be reported to MassDEP within fourteen (14) days of the finding (e.g. receipt of the analytical results from the laboratory), and the well(s) with exceedances must be re-sampled for the parameters of concern within sixty (60) days of the prior date of sample collection or as specified by MassDEP in accordance with 310 CMR 19.132(1)(j). If the owner/operator does not propose to resample for the parameter concern, technical justification shall be provided within fourteen (14) days of the finding.

   Please Note that the Owner/Operator shall notify the MassDEP's Bureau of Waste Site Cleanup-Emergency Response Section (508) 946-2850 in accordance 301 CMR 40.0311 and 40.0312 for releases which require notification within 2 hours and 310 CMR 40.0313 releases which require notification within 72 hours.

5) Surface Water Monitoring Network: The surface water monitoring shall be performed in accordance with the following plan:

   - The following three (3) surface water monitoring locations (SW-1, SW-2, and SW-3) shall be sampled quarterly. Surface Water samples must be analyzed for the parameters listed at 310 CMR 19.132(1) including "all the compounds included in EPA Method 8260 and methyl ethyl ketone, methyl isobutyl ketone, acetone and 1,4 dioxane". The analytical results shall be compared to background values and appropriate benchmarks such as Massachusetts Surface

Water Quality Standard promulgated at 314 CMR 4.00 and the National Recommended Water Quality Criteria, published by United States Environmental Protection Agency, pursuant to section 304(a). These numerical values were formally known as Ambient Water Quality Criteria (AWQC's). Freshwater aquatic life criteria for certain metals (e.g. cadmium, chromium, copper, lead, silver, and zinc) are expressed as a function of hardness because hardness can affect the toxicity of these metals.

6) Sediment Sampling: MassDEP has reviewed the locations for sediment sampling (adjacent to SW-1, SW-2, and SW-3) as proposed by the Consultant and determined that they are suitable. At a minimum, sediment samples should be analyzed for total metals (listed in 310 CMR 19.132), Polychlorinated biphenyls (PCBs), pesticides and semi-volatile organic compounds (SVOCs). Based on the evaluation by the Consultant during the CSA, sampling may occur at additional locations.

7) Landfill Soil Gas Monitoring Network: The Owner/Operator shall conduct Landfill soil gas monitoring in accordance with the following plan:

   a) Landfill Soil Gas Monitoring Wells: Landfill gas probes shall be sampled quarterly.

   b) Landfill Gas Sampling Procedures: The Owner/Operator shall follow the Landfill soil gas sampling procedures specified within the MassDEP's Landfill Technical Guidance Manual (revised May 1997) and the notification requirements specified at *310 CMR 19.132 Environmental Monitoring Requirements.* The landfill gas monitoring wells shall be analyzed for percent methane, percent lower explosive limit, carbon dioxide, hydrogen sulfide and percent oxygen.

8) Landfill Gas Notification Requirements: Reporting requirements applicable to landfill soil-gas environmental monitoring results are as follows (if/when applicable):

   As specified in solid waste management regulations at 310 CMR 19.132(5)(g):

   *(g) When, at any time, the concentration of explosive gases exceeds **10%** of the lower explosive limit (LEL) in any building, structure, or underground utility conduits, excluding gas control, gas recovery and leachate collection system components, the owner/operator shall:*

      1) take immediate action to protect human health and safety;
      2) notify the Department within **two hours** of the findings; and
      3) undertake the actions specified under 310 CMR 19.150, Landfill Assessment and Corrective Action, as required by the Department.

   As specified in the Solid Waste Management regulations at 310 CMR 19.132(5)(h):

   *(h) Except in buildings, structures and underground utility conduits for which 310 CMR 19.132(5)(g) applies, when at any time the concentration of the explosive gasses exceeds **25%** of the lower explosive limit (LEL) at the property boundary or beyond, excluding gas control, gas recovery or leachate collection system components, the owner/operator shall:*

      1. take immediate action to protect human health and safety;
      2. notify the Department within **twenty-four (24) hours** of the finding; and
      3. undertake the actions specified under 310 CMR 19.150, Landfill Assessment and Corrective Action, as required by the Department.

- If a soil-gas well(s)/probe(s) with an exceedance is in close proximity to buildings, structures and/or utility conduits, the Owner/Operator shall monitor the interior of the buildings, structures and utility conduits for landfill gases. The building and its utility conduits should be monitored for percent methane, volatile organic compounds, oxygen and hydrogen sulfide, at a minimum.

- All confined spaces within all buildings, should be screened for combustible gases. Wherever there are penetrations/cracks in building/structure foundations, the area in its immediate vicinity should be screened for combustible gases.

- If at any time monitoring detects the presence of any combustible gases at or in excess of 10% of the Low Explosive Limit at any location within the buildings or within any utility conduits on-site or off-site, the Owner/Operator shall notify the MassDEP's Bureau of Waste Site Cleanup-Emergency Response Section (508) 946-2850 within two hours of the exceedance as per 310 CMR 40.0321(1)(a) of the regulations.

9) Interim ISA/CSA Report: In accordance with condition 52B of the ACO, within forty-five (45) days of the approval of the ISA/CSA Scope of Work, the Consultant shall submit an interim report summarizing the information obtained during the first round of CSA sampling. The interim report shall be consistent with the environmental monitoring requirements specified at 310 CMR 19.132(1)(f), and shall at a minimum, include the following information:

   A) Site plans or maps showing: the locations of all monitoring devices, the ground water flow direction, and the location and distribution of measured contaminants;
   B) The interim CSA report shall include recommendations for modifications to the comprehensive site assessment scope of work based upon the first round of sampling results. Specifically, the interim CSA report shall include recommendations for:

      I. Continued monitoring of groundwater samples for extended parameters.
      II. Identification of any particular issues of concern, including but not limited to assessment data that could affect the design of the CAD or implementation of the CSA.
      III. A summary of all analytical data inclusive of all applicable standards (MCP method 1 GW-1, GW-2, GW-3, and the "*Massachusetts Drinking Water Guidelines*"), with a corresponding comparison to recent, previous and/or past historical data.

10) The Owner/Operator shall comply with the performance standards for Environmental Monitoring Specified at 310 CMR 19.132 Environmental Monitoring Requirements.

11) Interim ISA/CSA Report: The MassDEP reserves the right to require additional assessment investigation or corrective actions at the Landfill area based on the review of the Interim ISA/ CSA Report.

12) New Receptors: The Operator shall monitor the properties adjacent to the Landfill for changes in use that may create new receptors potentially affected by the Landfill. The Operator shall notify MassDEP of any new or proposed uses on adjacent property including new groundwater wells, new structures, new utilities, new passive uses, etc. The Operator shall modify the Landfill environmental monitoring network by the addition of new groundwater monitoring wells, and/or new subsurface gas migration monitoring probes, or enhanced sampling as deemed appropriate to protect public health, safety, and the environment.

13) The Final CSA shall comply with the requirements specified in 310 CMR 19.000 and MassDEP's Landfill Manual.

Reservation of Rights: The MassDEP reserves the right to rescind, suspend or modify or require additional assessment(s) or action(s) as deemed necessary in order to protect and maintain the environment free from objectionable nuisance condition, dangers and/or threats to the public health or the environment.

RIGHT OF APPEAL

REVIEW OF DECISION

Pursuant to 310 CMR 19.033(4)(b), if the Applicant is aggrieved by MassDEP's decision to issue this decision, it may within twenty-one days of the date of issuance file a written request that the decision be deemed provisional, and a written statement of the basis on which the Applicant believes it is aggrieved, together with any supporting materials. Upon timely filing of such a request, the decision shall be deemed a provisional decision with an effective date twenty-one days after MassDEP's receipt of the request. Such a request shall reopen the administrative record, and MassDEP may rescind, supplement, modify, or reaffirm its decision. If MassDEP reaffirms its decision, the decision shall become final decision on the effective date. Failure by the Applicant to exercise the right provided in 310 CMR 19.033(4)(b) shall constitute waiver of the Applicant's right to appeal.

Right to Appeal: This approval has been issued pursuant to M.G.L. Chapter 111, Section 150A, and 310 CMR 19.033: Permit Procedure for an Application for a Permit Modification or Other Approval, of the "Solid Waste Management Regulations". Pursuant to 310 CMR 19.033(5), any person aggrieved by the final permit decision, except as provided for under 310 CMR 19.033(4)(b), may file an appeal for judicial review of said decision in accordance with the provisions of M.G.L. Chapter 111, Section 150A and M.G.L. Chapter 30A no later than thirty days of issuance of the final permit decision to the applicant. The standing of a person to file an appeal and the procedures for filing such an appeal shall be governed by the provisions of M.G.L. c. 30A. Unless the person requesting an appeal requests and is granted a stay of the terms and conditions of the permit by a court of competent jurisdiction, the permit decision shall be effective in accordance with the terms of 310 CMR 19.033(3).

Notice of Appeal: Any aggrieved person intending to appeal a final permit decision to the Superior Court shall first provide notice of intention to commence such action. Said notices of intention shall include MassDEP Transmittal No. X254044 and shall identify with particularity the issues and reason why it is believed the final permit decision was not proper. Such notice shall be provided to the Office of General Counsel of MassDEP and the Regional Director for the regional office which processed the permit application, if applicable at least five days prior to filing of an appeal. The appropriate addresses to send such notices are:

Office of General Counsel	Philip Weinberg, Regional Director
Department of Environmental Protection	Department of Environmental Protection
One Winter Street	20 Riverside Drive
Boston, MA 02108	Lakeville, MA 02347

No allegation shall be made in any judicial appeal of a final permit decision unless the matter complained of was raised at the appropriate point in the administrative review procedures established in 310 CMR 19.000, provided that a matter may be raised upon showing that it is material and that it was not

reasonably possible with due diligence to have been raised during such procedures or that matter sought to be raised is of critical importance to the environmental impact of the permitted activity.

Please direct any questions regarding this matter to me at (508) 946-2847 or write to the letterhead address. Refer to **Transmittal Number X260505** in any correspondence to this office regarding this project.

Very truly yours,

Mark Dakers, Chief
Solid Waste Management Section

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Dartmouth Conservation Commission
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DEP - Boston
ATTN: P. Emond

DEP-Lakeville
ATTN: M. Pinaud
L. Black